

ABSTRACT OF THE DISCLOSURE

Apparatus and methods are disclosed for printing a plurality of biopolymer features on the surfaces of substrates. An apparatus comprises a substrate mount for receiving a substrate, a dispensing device for dispensing reagents for synthesizing a biopolymer on a surface of the substrate, an optical system for positioning the substrate mount along a y-axis and an optical system for positioning the dispensing device along an x-axis. The apparatus may comprise a touch system for positioning the substrate and the dispensing device along a z-axis. One of the substrate mount or the dispensing device is adapted for translation along the y-axis and for rotation about a central axis that is parallel to a z-axis. The other of the above is adapted to move along the x-axis transversely to the direction of, and independently of, movement of the one adapted for translation along the y-axis. The optical systems cooperate to position the substrate mount and the dispensing device relative to one another. Also disclosed in conjunction with the apparatus and methods are washing stations and loading stations.

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